Industrial Equipment Reliability Checklist

# 1. Asset Identification & Classification

* ☐ Maintain a centralized asset register
* ☐ Classify equipment by criticality level (High, Medium, Low)
* ☐ Assign unique IDs or barcodes to each asset
* ☐ Tag obsolete or underutilized equipment for review

# 2. Inspection Planning

* ☐ Develop an annual inspection calendar
* ☐ Use Risk-Based Inspection (RBI) for high-risk assets
* ☐ Integrate inspections into your CMMS or ERP
* ☐ Align inspection frequency with OEM recommendations

# 3. Condition Monitoring & Predictive Maintenance

* ☐ Implement vibration analysis, ultrasonic testing, or thermal imaging
* ☐ Install IoT sensors on rotating or mission-critical equipment
* ☐ Track asset performance using dashboards or analytics
* ☐ Set automated threshold alerts for anomalies

# 4. Data Management & Reporting

* ☐ Digitize all inspection and maintenance records
* ☐ Store photos, videos, and documents in a cloud-based system
* ☐ Ensure data is accessible for audits and compliance
* ☐ Use historical data to improve predictive models

# 5. Maintenance Strategy Review

* ☐ Define a mix of reactive, preventive, and predictive maintenance
* ☐ Perform Failure Mode and Effects Analysis (FMEA) annually
* ☐ Review spare parts availability and lead time
* ☐ Evaluate the effectiveness of existing SOPs

# 6. Workforce Training & Safety

* ☐ Train operators on early signs of failure
* ☐ Certify technicians for inspection tools and safety compliance
* ☐ Review and update safety protocols regularly
* ☐ Conduct mock drills for emergency response

# 7. Compliance & Documentation

* ☐ Comply with ISO 55000 / ISO 14224 (Asset Management Standards)
* ☐ Meet regulatory requirements in your operating region (India, GCC, Far East)
* ☐ Maintain inspection logs for at least 3-5 years
* ☐ Conduct internal audits quarterly or bi-annually

# 8. Spare Parts & BOM Optimization

* ☐ Maintain accurate Bill of Materials (BOMs)
* ☐ Eliminate duplicate or obsolete material entries
* ☐ Review safety stock levels based on failure frequency
* ☐ Use ABC analysis for critical spares prioritization

# 9. Failure & Root Cause Analysis

* ☐ Log all unplanned failures with downtime duration and cost
* ☐ Use Root Cause Analysis (RCA) methods like 5-Whys or Fishbone
* ☐ Categorize failures by mechanical, electrical, or operational issues
* ☐ Apply lessons learned to prevent recurrence

# 10. KPIs & Continuous Improvement

* ☐ Track key metrics: MTBF, MTTR, Equipment Availability %, Unplanned Downtime Hours
* ☐ Benchmark reliability performance across plants or locations
* ☐ Set quarterly reliability improvement goals
* ☐ Conduct regular reviews with cross-functional teams